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seven by narrup, three by milwerangel, and two by nirimaoi yolno. Although the last is the most frequent type of fight, it seldom results in killings; gaingar, on the other hand, has happened only twice in the last twenty years, yet it has accounted for the deaths of twenty-nine men.

The wooden or stone-headed spear, the spear-thrower and the club, as well as the stone knife, are used in these engagements. The spear is the chief weapon, although in camp fights clubs play a prominent part. The stone axe, which is primarily utilized as an implement, also serves as a weapon. No shield is found here. The Murngin depend on the spear thrower to ward off spears and on their well-developed agility to avoid thrusts. In all fights except the nirimaoi yolno and the narrup, the people coat themselves with war paint of white clay.

Nirimaoi Yolno

Nirimaoi fights are very frequent and are usually the result of quarrels caused by adultery or the husband's belief that someone has been attempting to make him a cuckold. The injured man goes to the camp of the lover and accuses him. He carries a bundle of spears and possibly a club with him. Words follow, swearing starts, and indignation is felt on both sides. Relatives of each contestant help him if the quarrel is felt to be very serious. The women usually attempt to hold the arms of the men to stop the fight from becoming too serious, meanwhile cursing the opponents of their brothers and husbands. At times, however, women pick up their digging sticks or a man's club and help their male relatives; very occasionally a woman is wounded and in certain very rare cases killed.

The nirimaoi yolno fight seldom results in anyone's being killed. Friends of both parties always stand back of the men and hit the spear-throwers or hold them when the fighters attempt to hurl their spears at each other. The contestants usually depend upon this and talk much "harder" (dal) to each other than they would if they knew that they were going to be allowed to have free play at each other. They increase their own sense of importance through the interest of others in their actions and possess a feeling that they are much braver warriors and are filled with a much more intense desire to kill than they would have if no one interfered. By remonstrating with their friends and struggling to get free from them, they are able to vent their outraged emotions and prove to the community that no one can infringe upon their rights without a valiant effort being made to prevent it. Obviously

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ing distance, and once more spears are thrown at them, but this time there is an effort made actually to strike them, since now they represent the enemies, whereas in the morning they represented the challenging clan. The spears are then sent by messenger to the enemy. They are a ceremonial invitation for battle. The enemy goes through the same ceremony if it decides to accept. The two parties then meet halfway between their respective territories.

Short spears are used in the gaingar because they can be thrown from any position and are difficult to parry or avoid. The two lines of warriors stand about fifty feet apart. Leadership is almost completely absent after the fight starts. Trickery is used if possible. In the gaingar that was held in the Goyder River district, the sea people who challenged the men from the interior hid part of their forces on each side of the plain in a mangrove jungle. They placed a small party down at the forward end of the plain for the advancing people to see. As the enemy advanced this small group retreated to the jungle growth at the far end. They thus enticed their antagonists into the avenue of hidden warriors. The sea people then surrounded those from the interior and killed a large number.

Makarata

The makarata is a ceremonial peacemaking fight. It is a kind of general duel and partial ordeal which allows the aggrieved parties to vent their feelings by throwing spears at their enemies or by seeing the latter's blood run in expiation.

Frequently the makarata does not follow the ideal pattern; instead of providing a peacemaking mechanism, it produces only another battle in the interminable blood feud of the clans.

When sufficient time has elapsed after an injury or death of a member for the clan's emotions to calm, the men send a message to their enemies saying they are ready for a makarata. The other side usually agrees to enter into this peacemaking ceremony, although there is always suspicion of treachery. The injured group always sends the invitation, and the other must wait for them to decide when they wish to have it. Frequently makarata are held after some of the totemic ceremonies have taken place, since it is at this time that most of the clans will be present. When the warriors of the injured clan or clans arrive on the dueling ground they are covered with white clay. They dance in, singing a song which is descriptive of the water of their totemic well. The other side has also painted itself. The two sides stand a little

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Ainmaras.—These native artifacts serve as a woman's article of apparel, a mat to sit on, a sunshade, and a mosquito and fly net. All of the uses except the first, which is primary, are employed by both men and women. 285

The ainmara is made of the inner bark of the pandanus with the twining technique. When open it looks like the bottom of a large basket, and when folded like a quarter section of a circle; it is ordinarily twenty inches long and thirty-six inches at its greatest width. The folded ainmaras are a constant equipment of women.

Sometimes the warp is left as a six-inch fringe around the edge of the ainmara.

The half-circle variety of the ainmara (twenty-six and one-half inches by thirty inches) cannot be used for a sunshade or mosquito and fly net. Both are sometimes decorated with overstitched lines of pandanus fiber or human hair string. [531]

Ainmaras are made by both men and women, but usually by women. The woman starts at the center and gradually widens it as she continues her twining. The enlarging surface is kept smooth and even by placing the mat on the sand and rubbing it with a smooth flat stone. [462]

A small fiber string loop is put into the point of the folded ainmara and a woman carries it on her arm at the elbow or by holding it in her hand. Most of the women wear no pubic coverings and when a strange man approaches the camp they cover their pudenda with the ainmara. Sometimes a woman's modesty affects her in such a way that she hides her face rather than her pubic parts. [482] [291] [834]

During the midday siesta men and sometimes women open the ainmara and double the body up beneath it to keep the flies off and protect themselves from the direct rays of the sun. During the sand-fly and mosquito months the ainmaras are used to keep off these insects.

3. Weapons

Spear-thrower (Mang-el)

The type of spear-thrower used by the Murngin and natives of northeastern Arnhem Land has a general distribution in Australia from the Kimberleys of West Australia to the southern shores of the Gulf of Carpentaria. The particular variety of this weapon found among the Murngin reaches the Daly River in the west and south, the Katherine River, also in the south, and east to the Gulf of Carpentaria. The Groote Eylandt people possess a modification of the mangel type of spear-thrower. The Kimberley variety, although belonging to the same general type as the Murngin, is larger and is made of a different kind of material from that found among the Arnhem Land natives. 411 171

The length of the mangel ranges from thirty-four to thirty-nine inches, with a norm of three feet. It is made of a hard wood of medium weight 411

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411 (usually a variety of eucalyptus). Its width is one and one-half to two inches, with a norm of one and three-quarters inch, and it possesses a thickness of about one-quarter of an inch, the two sides being very slightly convex. The neck of the mangel is only about one inch wide. A grip, sometimes wrapped with fiber string or kangaroo and opossum gut, is provided at the handle end of the mangel by narrowing the mangel to an inch in width.

The spear-throwing end has a rounded wooden peg about one inch long which is hafted to and protrudes at a sharp angle from the main shaft. A hole about one inch in length is cut into the distal end of the shaft. The graduated end of the peg is inserted into this hole and fastened by a wrapping of fiber string and a secondary coating of iron-tree resin.

[531] The mangel is sometimes decorated with bands of paint, or with totemic designs if a ceremony is being performed. Frequently bands are incised around the handle, or geometrical patterns on the body of the shaft.

The mangel is used to project a spear with greater velocity, force, and distance, both in fighting and in hunting. The one used for harpooning sea animals is usually larger than the ordinary hunting and fighting type. Each spear has a small hole in the handle end of the shaft to allow the insertion of the spear-thrower's peg. The flat shaft of the mangel is held between the third and fourth fingers, the first three fingers pressing against the hand, while the fourth and thumb hold the spear. The spear shaft runs along parallel to the flat side of the shaft of the mangel from the peg to the fingers.

When ready to be thrown, the mangel is held over and back of the shoulder and is then quickly thrown forward. The thumb and fourth fingers loose the spear shaft and release the spear from the mangel, which is retained in the hand.

During a fight or peacemaking duel the mangel is sometimes held by the center of the shaft and is used as a kind of parrying stick to ward off the spears thrown, since the Murngin have no shields. It is also used as a club when the men are fighting at close quarters during a camp fight. The sharp edge of the shaft frequently cuts an unwary opponent's face, neck, or head.

The natives also use a cylindrical type of spear-thrower, slightly shorter than the mangel, with a diameter of about three-quarters of an inch. Human hair string is attached to several inches of basal strand much as for a small pubic apron, and then wrapped around the handle end of the spear-thrower to serve as a kind of fringe. The basal strand of the fringe is tied around a small incision made in the shaft about three-quarters of an inch from the end. The tassel is about six inches long and three-quarters of an inch in diameter.

The notch in which the peg of the cylindrical form of spear-thrower is placed is not cut all the way through the distal end of the shaft as it is in

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the mangel type, but only about half of the wood at the place where the incision is made is cut away. Fiber string and resin form the hafting materials.

The cylindrical type of spear-thrower is not a hunting weapon, and is supposed to be carried only by old men, although young men have been observed using it. Its chief use is ceremonial. The leader of a totemic dance frequently directs the dances with it, using it as a baton as he keeps time to the rhythm. Sometimes this spear-thrower baton has red parrot feathers tied to the end of each piece of human hair string.

Spears

The spears possessed by the Murngin may be divided into four main types, according to the variety of heads possessed by each. They are: (1) stone, (2) wooden, (3) sting-ray prong, and (4) in the present day, iron.[2] The writer has chosen the above classification by material because each has a separate technique for its manufacture and because a classification by function would not divide the spears into different varieties, for all of them, with the exception of the third, are used in both fighting and hunting. Spears are used only by men and boys, never by women.

A. *Stone-pointed Spears.*—The length of the flaked-stone spear head has a norm of six inches and a variation of from three and a half to seven and a half inches. Its diameter at the upper end (widest part) is two inches, with a variation of from one and one-half to three inches. Some of the spear heads are serrated along the edges, but the majority are not. (The chipping technique is not applied to stone spear heads in this area, and is found only among the tribes centering around the Kimberley region of West Australia.) The peoples of the coastal plain obtain all their spear heads by trading with the table-land peoples in the interior.

The wooden shaft, usually of eucalyptus (but also of canes and mangrove wood), is normally about six feet long, and varies from five feet nine inches to nine feet in length. The diameter of the shaft is three-quarters of an inch. Its distal end is split in the center for about four to five inches to allow the stone head to be inserted. The stone and wood are then joined by a wrapping of fiber string and a secondary coating of native beeswax. The proximal end has a small hole bored in it. This serves as an articulation socket for the peg of the spear-thrower. For a distance of three to four inches each side of the hole, the shaft is wrapped with fiber string and coated with ironwood cement to prevent splitting.

All the shafts are smeared with red ocher, and eighteen inches of the distal ends is painted with white clay. The beeswax is likewise covered with pipe clay. Painting is for decoration only, and has no utilitarian or magical purpose.

B. *Wooden-headed Spears.*—Spears with wooden heads may be classified

[2] Not discussed here, for the reason that they form an exotic element in the culture.

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411 in the following manner, the criteria being the technique used in their manufacture and the form of the spear head:

Type I. One prong
Subtype A. Unbarbed
Variety 1. Sharpened stick with head and shaft of one piece
Variety 2. Cane shaft, hafted to sharpened hard sick
a. Large
b. Small
Variety 3. Flat wooden blade hafted to the shaft
Subtype B. Barbed
Variety 4a. Lace spear (barbs partially cut), usually hafted head, but sometimes whole spear made out of one piece
Variety 4b. True barbed spear, but barbed only on one side
Variety 5. Javelin type, barbed on one or both sides
Type II. Multiple prongs
Subtype A. Two-pronged hafted head, barbed on one side (fighting spear)
Subtype B. Two-, three-, and four-pronged hafted heads, barbed on one side (fish spear)

Variety 1.—One-piece spear (the unbarbed, sharpened stick): This spear is normally about eight feet nine inches long, with a variation ranging from five feet seven inches to nine feet three inches. It is a plain sharpened stick, usually of mangrove wood, and is ordinarily made with less of the finish and the pride of workmanship manifest in the others manufactured by the Murngin. It is used chiefly for fighting in mangrove jungles and thickets, since it does not catch on the limbs of the trees. It is also used for hunting. Another advantage this spear possesses is that, because of its small head, it allows the native to carry a larger number than he can of the others. A half-inch hole at the spear-thrower end for the articulation of the spear-thrower may or may not be coated with resin. The distal end tapers gradually for about one foot to a sharp point to form the spear head, and is usually painted and incised for a distance of about two feet to mark the head of the spear. The incisions are parallel marks that encircle the shaft and make usually three, sometimes two or four or five, parallel bands. About three and one-half inches from the incisions which differentiate the head from the shaft a second string of bands is found. The shaft is almost [531] always painted with red ocher and the point usually painted yellow. The incised bands are red or black, with occasional white bands.

Variety 2a.—A hafted, cane, one-pronged, unbarbed wooden spear used for hunting and fighting. Its measurements are the same as those of Variety 1. The hafted head is made from light wood sharpened to a point and about three to three feet six inches in length. The hafting end is sharpened and pushed into the central hollow of the cane and wrapped and tied with

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pandanus leaf fiber. The handle end has the usual small hole for the spear-thrower and is usually unwrapped and without resin. 411 ●

Variety 2b.—This type is in all respects much the same as Variety 2a, except that it is only fifty-seven inches long. The hard-wood head is about thirteen inches in length and hafted to the shaft. The spear-thrower end is always strengthened with a covering of resin or beeswax. It is painted white at both ends for a distance of six inches. [531]

Variety 3.—The spear with a one-pronged, flat, wooden-bladed head is used almost entirely for fighting. Shaft and blade are composed of light wood. The spear varies in length from eight feet four inches to eight feet nine inches, with a norm of eight feet four inches. The blade length has a fourteen-inch norm and is two inches in width. The blade is slightly convex, pointed, both edges being sharpened. There are usually two or three bands incised around the blade at the hafting end. Shaft and blade are painted with red ocher. The blade is further decorated with painted cross-hatchings, dots, or bands of white clay. The handle end usually has a six-inch covering of the same material. This spear also has a socket for the articulation of the spear-thrower. [531]

Variety 4a.—One-pronged spear, barbed on one side. This spear has two subvarieties: (a) the so-called "lace" spear (man'-daj-pi), and (b) a plain barbed spear. The former derives its name and its distinction from the latter type from the fact that the barbs are only partly cut through the head, a series of parallel perforations continuing the demarcation of the barb and creating a lace-like appearance. The holes are about three-eighths of an inch in diameter and about the same distance from each other.

Variety 4b.—This spear type has the entire barb about a half inch in length cut through the blade. The larger of this size of spear has a barb measuring about three-quarters of an inch in length at the sharpened end of the head, and one and three-quarters inch near the part of the head which is hafted to the shaft. The normal length of this type is nine feet, which varies from six inches longer to six inches shorter. The lace spear head has a norm of twenty-two inches and a variation range of twenty to twenty-six inches. The shaft is about one-half inch in diameter. The material from which these spears are made is usually ironwood. This wood is preferred, but frequently lighter stringy bark is used. The head and shaft are of one piece, but resin is placed at the junction of the two. This at first appears to be mere imitation of the usual hafting in deference to an aesthetic feeling that there should be a demarcation of the head from the shaft. A more careful investigation shows that the resin has real functional significance since it is used to weight the head and to give the spear more perfect balance.

The barbs of this type of spear are usually first given a complete coat of black or red. Lateral bands of light color, white or yellow, are added, which presents an alternation of the dark undercovering and the light overcolor. [531]

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411 [531] Usually the "body" of the blade is given a coat of white paint. The shaft is ornamented with red ocher. The red ocher is smeared on with the hand, but the other colors are applied to the spear with the aid of a chewed twig or a human-hair brush.

Variety 5.—This spear has a much larger head than any other found among the Murngin, and has a number of forms. Its normal length is about eight feet, with a range from six feet six inches to nine feet. The head is normally thirty-three inches in length, with a variation from thirty inches to thirty-five inches. Its width is ordinarily about three-quarters of an inch. The blade is flat on both sides; it may be barbed on one or both edges. The spear may be made of one whole piece, or the wooden head may be hafted to the shaft. Usually it is unhafted, and hafting takes place only if the shaft or head breaks. The wood is normally stringy bark.

The form which has barbs on only one side of the blade has two or three barbs which project at an angle from the point, and usually the barbs nearest the haft are cut to curve upward toward the point of the spear. The barbs of this form of Variety 5 are exceptionally long, measuring from a normal six inches in length to seven inches. The barb at the more distal end of the head varies from three and one-half inches to seven inches in length, but ordinarily is about five inches long. The heads are highly [531] painted in reds, yellows, whites, and blacks. Usually the barbs are white or yellow and the blade red.

The form which has barbs on two sides of the blade also has two, three, and occasionally four barbs on either side. Generally all point away from the distal end; the barbs nearest the hafting may or may not curve distally. The spear is banded in the same style and colors as the form barbed on only one side. This spear is used almost entirely for fighting; but of recent years it has gone out of general use and is now made rather for the aesthetic joy of carving and painting it.

Type II, Subtype A.—A bilaterally barbed spear with two prongs, each with small barbs on only one side of each prong. It is used only for fighting and dueling. The total length of the spear is four feet two inches to five feet two inches. The haft end, of hard wood, has a fourteen-inch norm with a variation of from twelve to fifteen inches. The hafting is done in the usual way by splitting the shaft, thinning the hafting end of the spear head, and finally wrapping the articulation with fiber string and coating it with beeswax. The head, including the prongs, is painted white, as well as [531] the end of the shaft, which is ruddled its entire distance.

Type II, Subtype B.—A two- to four-pronged spear, with barbs cut on both sides of the prongs. It has a length of about four feet ten inches to five feet ten inches. The prongs have a sixteen-inch norm and vary from fifteen inches to twenty-nine inches. The barbs turn inward and are small and sharp. The hafting is the same as for the other spears. Additional strength is given the spear by wrapping the prongs about one-third their length with

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fiber string to keep the impact with the target from spreading the prongs and splitting the shaft. This spear is used only for fishing. When the natives are able to procure them, they sharpen small iron rods and substitute them for the wooden prongs.

C. *Sting-ray Spears.*—The barbed prongs found on the tail of the sting-ray are kept by the native hunter. After he has gathered anywhere from twelve to thirty, he attaches them to the end of a seven-foot shaft. The hafting is done with resin and a wrapping of fiber string. Beeswax is never used. The prongs are so arranged that they present a semicircular set of points to the enemy when thrown. This spear is used only for fighting.

All fighting and hunting spears are used without alteration in the various ceremonies. A challenge spear, however, is especially made for one particular purpose and functions in no other way. The native takes the usual small-size cane-shaft spear (Variety 2b), paints it with alternating bands of light and dark paint, and wraps it with feathered fiber string. Two tassels are hung on the handle end. Two of these spears are sent the enemy as a challenge to an open fight.[3]

A toy spear is used by the small boys and thrown without the use of a spear-thrower. It has, therefore, no hole for articulation at its handle end. Instead of a point, it has a wad of paper bark tied with fiber string at its distal end to prevent injury to an opponent. Sometimes feathers are added as ornaments. This spear is sometimes only a straight stick without the paper-bark covering.

Clubs

The Murngin do not possess the smaller clubs found farther south in Australia, nor do they have any type of throwing club. All clubs found here in the north are of the large type, are used for striking a blow, and do not leave the hand when in use.

The two main types of clubs are: (1) the flat-bladed type, and (2) the bird-headed or jabiru-headed type. The first has two subtypes. The jabiru form has been given this name because it both looks like and is painted to represent a jabiru's head. Its shaft, a cylinder two inches in diameter, is about four and one-half feet long. It weighs about four pounds. The head of the club is about one inch long and joins the shaft at almost right angles. The trunk and root of the mangrove tree are used as raw material. The root is used for the head, and the trunk becomes the shaft. The shaft is painted red and white. A small hole is cut in the head and the edge painted to represent a bird's eye. The "beak" of the bird club head is sharpened and used as a hook or pick. The fighter gets the head of the club behind his antagonist, pulls it quickly forward, and hits him on the back of the neck;

[3] See the chapter on Murngin Warfare for a further description of the way this spear is used.

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411 or the weapon is used to peck the face of his opponent. This club is used very little, the flat-bladed type being preferred.

The flat-bladed type of club is normally about fifty-four inches in length, but varies from a minimum of fifty inches to a maximum of over fifty-six inches. It is three and one-half to four and one-half inches wide, and from one-half to three-quarters of an inch in thickness. It is made of ironwood and weighs between three or four pounds. The upper and lower sides of the blade are convex and taper to two knife-like edges which end in a sharp point. The shaft is only about two and a quarter inches wide. The plain butt end of the shaft distinguishes the first subtype. The second subtype has an incision of about three-quarters of an inch at the butt end [531] of the shaft to represent the tail of a fish. Both subtypes are painted with red ocher and occasionally covered with geometric designs.

The flat-bladed type of club is used only in hand-to-hand encounters. A man's opponent is struck with the knife-like edge. The blow is usually directed at the head. Men generally use them, but women also use them occasionally to help their male relatives in a fight. It is not considered a woman's weapon.

A woman's yam stick is also used as a club by a man who finds himself without a hitting weapon during a camp brawl.

These northeastern Arnhem Land people have no shields with which to defend themselves against club or spear. The club itself is usually used as a parrying stick, just as the spear-thrower is used against the spear.

Boomerangs

The boomerang, which is usually thought of as a weapon characteristic of Australia, is not used as a throwing instrument in this area, except in the southern regions. Its only function in the northern clans is to beat time in certain of the ceremonies. In the south it is never used for hunting, and seldom for fighting. I saw several scores of fights and a large number of makarata (duels), but only once did I see a boomerang used and this by some people who had come from the far interior.

4. Canoes and Tools for Sailing Them

396 *Bark Canoe* (*baer-warn*).—The initial step in constructing a bark canoe is to cut the bark of a eucalyptus tree first around the bottom of the trunk and then at the top, split it down the center, and remove it as for house building. The outer surface is then cleaned and straightened, usually with the aid of a spear head used as a knife or with a stone hatchet.

The bark is then held in a fire and further straightened. It is next shaped so that the inner side of the bark becomes the outside of the canoe. This is done by putting two logs on each side of the fire and using them as wedges to push the bark into shape. The bark is creased down the center to form a wedge-shaped canoe. The ends are then sewn with a

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Paddles and clubs have many traits in common and are obviously under the same technical influences. 501

Anchors.—An anchor consists of a large stone tied to a twelve to eighteen foot turtle rope, attached to the stern of a canoe. The canoe, with the aid of the stone anchor, can then be left near the water so that at low tide it is beached and at high tide it is floating but held from being carried to sea. This comparatively simple invention seems rudimentary and without significance, but a more careful analysis of its function shows it to be quite important. In the first place, instead of a man being forced to watch the tide and to hold the canoe during high tide, or beach it after considerable labor, this simple invention is substituted for him; or, to state it in another way, it takes the place of a man's hands, and is, therefore, one more projection of man's body into his culture through his tools. If the canoe is beached beyond high tide, the labor of several men is required both for taking it out of the water and putting it back again. The anchor acts as a labor-saving device.

3. Tools Used for Gathering Sea Food

Turtle Harpoon.—The turtle harpoon is a modification of the ordinary spear. Its shaft is about fifteen feet long and its diameter is much more than that of the usual spear shaft. The handle section has the usual smooth socket for the articulation of the spear-thrower, but the distal section is constructed entirely differently from that of the ordinary wooden or stone-headed spear. A socket several inches deep is bored into the far end of the shaft; this is used to keep in place the iron prong attached to the turtle rope. When the harpoon has been driven into the back of the turtle, dugong, or other sea animal, the prong comes loose from the shaft. 411

Harpoon Rope.—The rope for deep-sea harpooning and for anchoring a dugout canoe is made of the inner bark of the hibiscus. Unlike the two-ply string, it is composed of three strands. Each strand has a large number of fibers in it and the rope is about five-eighths of an inch in diameter. The harpoon rope is ordinarily about sixty to seventy feet long. It can be spliced by turning back the ends of the two pieces which are to be connected and interlocking the two loops. The strands of each end are then woven into the rope and wrapped with cord. A minimum of four people is necessary to manufacture a harpoon rope. It is never made by women. Whether three-ply rope is a Malay intrusion, a diffused technique from Papua or Melanesia, or invented by the Australian natives, cannot be proved. The fact that it is closely associated with the dugout canoe seems to suggest the Malay hypothesis, since the dugout in the western Arafura Sea is a Malay contribution to this civilization, and since the dugout carried with it the sail and the mast and the anchor rope as part of its complex. 441 283 [177]

Fish Nets.—Fish nets are made not by the loop method but with the ordi- 286

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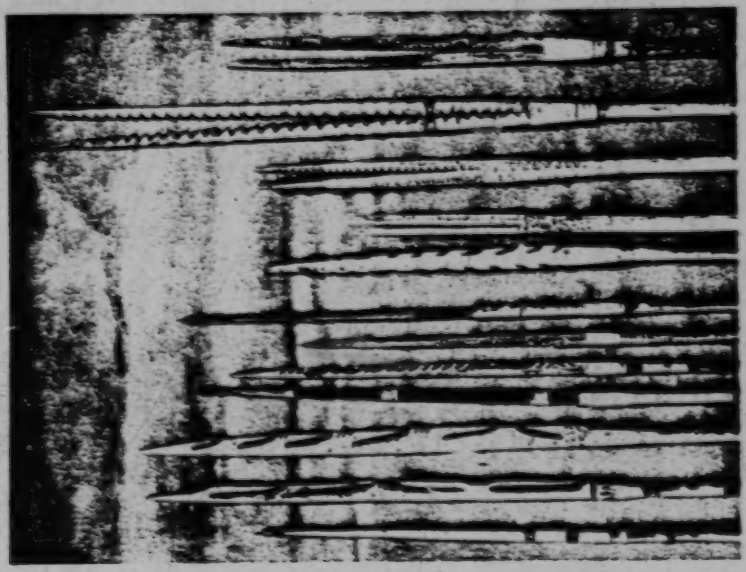
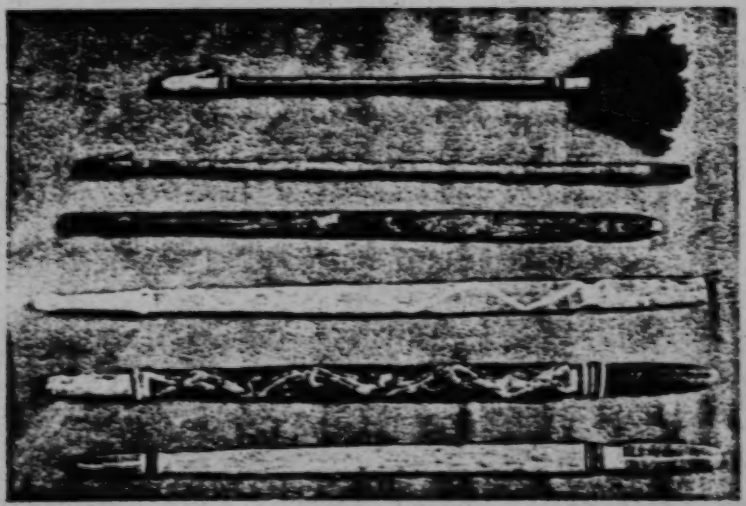
411



IIb. Spear Heads.



IIa. Spear-throwers. Four at Left Are Manoeli.

[p. 558 B]

3: Mountford E-5 (1948) 1956 · OII7 Muragin OII7

This was a signal for a number of *Bukalatji* men, who were hiding among the trees, to attack the unsuspecting *Muruma* and spear him to death. His body is now a rock which projects out of the sea near the shore at Jalboa (map, Fig. 57).

Two bark paintings illustrate the mythical story.

The central figure in Pl. 96A is *Muruma*. In one hand he holds four fish and in the other a twin-barbed fishing spear with which he has transfixed another fish. The crescents above his head and on the left-hand side of the painting represent curious loop-like clouds, *wulmu*.[96] The circles and cones along the right and left-hand edges are also clouds. In the upper part of the painting *Muruma* is asleep under a tree, with the fish (upper left) cooking on the fire, *a*, beside him.*

Plate 96D deals with the death of *Muruma* at the hands of the *Bukalatji*. In the centre is *Muruma* spearing fish and stingrays. In the lower left he is resting by his camp-fire, around which are the fish he is cooking. The *Bukalatji* are grouped along the upper edge. At the right, the unfortunate *Muruma* is being speared by one of the *Bukalatji*. Already there are many spears in his body.

Nakundia and Mununatqa

Nakundia and *Mununatqa* were two fishermen who once lived at Blue Mud Bay. One day, on returning to their camp after a day's fishing, they were set upon and speared to death by aborigines from a hostile group.

In the lower right panel, *a*, of Pl. 96C are *Nakundia* (lower) and *Mununatqa* (upper), both with a large fish in each hand. Above them is their canoe with the sail set. The next two panels to the left are the oval ceremonial grounds, similar to those used in the *arawaltja* ceremonies of Groote Eylandt (Fig. 6). Still further left is one of the fishermen standing on a rock, shown as an oval beneath his feet, with a fish in each hand. Above him are five fishing lines with hooks and sinkers attached. In the lower left, *b*, of the left-hand lower panel, one man (unidentified) is spearing another (possibly referring to the death of either *Mununatqa* or *Nakundia*). There are six spears to the left of this group. The designs on the upper half at *c* are totemic rocks and a palm tree, upper right.

The men responsible for the death of *Nakundia* and *Mununatqa* are shown in the central transverse panel *d*, while in the upper left panel, *e*, are the two dead fishermen transfixed with spears. At the right of the same panel are many fighting spears of a type used only in avenging ceremonies.

Minjapa and Wulnwil, the Turtle Fishermen

Two mythical fishermen, *Minjapa* and *Wulnwil*, one day captured a large turtle. They brought it into Jalboa, about three miles north-west of Yirrkalla,[97]

96. These clouds, *wulmu*, also belong to the thunder-man, *Tjambuwal*, Pl. 90D. It is evident that *Muruma* and *Tjambuwal*, both belonging to the *dua* moiety, are associated in the mythical stories.

* Reproduced in *Australia: Aboriginal Paintings—Arnhem Land*, 1954, Pl. XXVI.

97. This is also the totemic place of *Tjambuwal*, the thunder-man, and *Muruma*, the fisherman.

3: Mountford E-5 (1948) 1956 . OII7 Murngin OII7

*539 171 from Central Australia. Balfour[11] also figures a stone penis which is linked with the myth of the rain-man from Korporilja, near Hermannsburg, Central Australia.[12]

W. E. Harney, whilst with the expedition, found a carved wooden penis associated with a mythical man, *Borolo-borolo*, set up in the middle of a saline flat.[13]

The examples of the human penis, particularly those carved in stone, exhibit a remarkable skill in the shaping of this hard material. They constitute an ethnological problem in a continent where the working of stone has not reached a high level.

Carved and Painted Ceremonial Objects. Whilst the expedition was at Oenpelli the aborigines brought in a number of sacred objects, most of them from the Liverpool River area, belonging to mythical creatures and their increase ceremonies. Spencer[14] illustrates a number of these objects.

Decorated Implements and Weapons. Although the shield and the boomerang (two objects which aborigines in other parts of Australia spend much time decorating) are not used in Arnhem Land, many of the paddles and spear-throwers are painted with designs which, almost without exception, refer to some myth. The aborigines also engrave designs on their long smoking pipes. [411]

I. HUMAN FIGURES IN WOOD AND THEIR CEREMONIAL OBJECTS. YIRRKALLA

*539 177 *Human Figures carved in wood.* At Yirrkalla I collected nine full-length wooden human figures and eight heads, all of which represented either mythological or spirit people.

Origin. Inquiries about the carved human figures of north-eastern Arnhem Land proved that they are of comparatively recent origin.

Mauwulan,[15] an aboriginal about fifty years of age, remembers, when he was a small boy, seeing an old Macassan trepanger, *Bopalindi*, show his father, *Duankin*, how to carve a human head on the top of a burial post. This post *Bopalindi* later placed as a memorial on the grave of a dead Macassan.[16] *Duankin* spent much time carving a similar post, which he took to the Macassan for criticism. *Bopalindi*, when congratulating the old man on his effort, suggested that the aborigines, like the people of his own country, should place similar posts on the graves of their dead so that they would not be forgotten so quickly. [764]

Duankin taught his son, *Mauwulan*, the art of carving the mortuary posts,[17] he in turn passing the knowledge to others. As the aboriginal craftsmen became

11. Balfour (1951), p. 216.

12. I have not personally examined this specimen but from the illustration it appears to be a natural stone, bearing a remarkable resemblance to a penis. Mountford (1939c), Pl. 8, Fig. C, illustrates a similar example.

13. Pl. 104C; myth, p. 341. 14. Spencer (1928), Figs. 542, 543, Pl. XVI.

15. *Mauwulan*, one of my best informants (Pl. 14A) carved many of these wooden figures for me. He did the same for Mr and Mrs Berndt. [115]

16. Berndts (1949) describe a Macassan burial. 17. See example, Pl. 138C.

5: Webb M-5 (ca. 1930) 1934
OI17 Murngin OI17

either for good or ill. Thus there are found few natural leaders among these people, a man's individuality being submerged in the life of his horde or tribe. This same fact, coupled with the extreme isolation in which this race has for centuries lived, has also served to stultify progress. 157 182 [614]

Only by a man of exceptionally forceful character could reforms be instituted, and life has consequently gone on practically unchanged for countless generations. 178

Toward those whose friendship has been proved these aborigines show a splendid spirit of loyalty. Those who treat them in a fair and friendly fashion will receive fair dealing and devoted friendship in return. 577

Arts and Crafts

The weapons and utensils used throughout this area correspond to the usual aboriginal type, but include a number of local variations. Little use is made of any weapon other than the spear, though clubs of several types are used to a limited extent, as also are boomerangs. 411 ●

There are many varieties of wooden spears, barbed and unbarbed, some of which have the head and the haft fashioned out of a single piece of hardwood in a very remarkable way. Flaked stone spear-heads are much used, particularly for fighting, and these heads are traded over wide distances. [438]

The use of iron, particularly for spear-heads and cutting implements, has been known for many decades, this material being obtained in limited quantities from the old traders from Macassar. Only boomerangs of a heavy type are used, and these are by no means common. The light, return boomerang is unknown, as is also the shield. 177 411 439

Many types of "dilly-bag" are made, some of which are of such fine texture as to retain water. Others are highly decorated with feathers or fur woven in during manufacture. The material used in most cases is the split leaf of the pandanus palm. Other bags are made of string knotted very neatly and evenly in an open mesh. Fish nets are also constructed in the same way. 415 [285] [286]

Excellent string is manufactured from bark fibre, grass, fur, and human hair, and is used for a wide variety of purposes. Much of it designed for ceremonial purposes is decorated with feathers interwoven during spinning. Strong rope is made of bark fibre or grass, and used in the harpooning of turtle, dugong, or porpoise, and for the mooring of canoes. 283

8: Berndt E-5 (1946-1950) 1954
OI17 Murngin OI17

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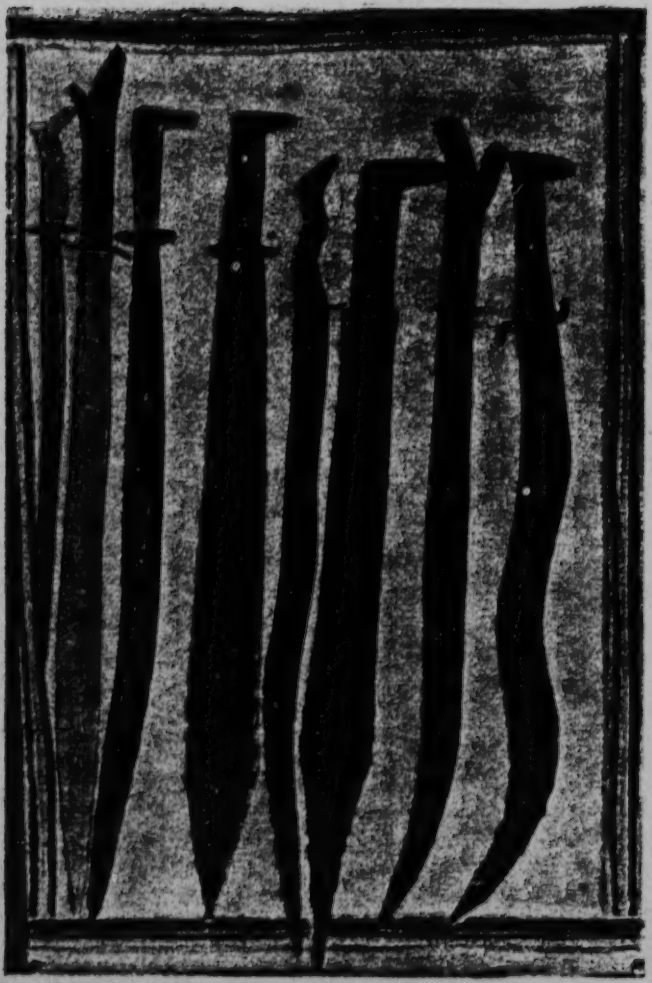

Plate 1: Drawing: Weapons used by Indonesians and later adopted by the Arnhem Land Aborigines. [in color]

[Facing title page A]

9: Thomson E-5 (1935-1943) 1949
OI17 Murngin OI17

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Plate 1. A craftsman at ŋillipidji, the far-famed stone spear quarry in the hinterland of Blue Mud Bay, examining flint spear heads called *ŋämbi*. These spear heads are encased in a special sheath of paperbark (*Melaleuca*) to which the name *djalk* is applied, which gives its name to *ḳunur djalk*, the quarter in the ceremonial exchange cycle from which most of these fine spear heads enter North and Central Arnhem Land. On the left are two bundles each containing about a dozen *ŋämbi*, neatly wrapped in paperbark, ready for transport inland for *wetj*, as goodwill presents for partners within the ceremonial exchange cycle. The smooth stone implements on the left are the hammer stones used by the spear maker to strike off flakes from a core of flint dug out of the quarry.

[Facing p. iii]
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252 and pounding-stone with water during the process. The dried fruit may also be prepared by soaking in water or it may be mixed with the pulverised flesh and bones of the Red Kangaroo, *kärritjämbäl*, into a kind of paste, in which form it is greatly relished.

251 The only other instance, in my experience, of an attempt by Australian aborigines to store vegetable food, was on Western Cape York Peninsula, where the fruit of the Nonda Plum (*Parinarium Nonda*) was stored in deep holes sunk in dry sand, where it was kept for some time. The desiccated fruit was then prepared in the same way as *Buchanania* was treated in Arnhem Land, by pulverising the fruit, together with the hard stone or kernel, with a pounding-stone and soaking it in water. The two examples quoted above are of considerable interest and are important economically, for they appear to represent the beginnings of the practice among a nomadic hunting and food-gathering people of conserving and storing food.

412 The implements and domestic utensils used by the women are simple but well made, in each case by a technique which is perfectly fitted to the material available. The most important and characteristic implement used throughout most of the Continent is the yam stick. In Northern Australia, this is made from ironwood (*Erythrophloeum Laboucherii*), varying in length from about three feet to five, or a little more, sharpened at one or both ends, the digging points hardened by fire. This serves both as an implement for [411] digging and as a weapon for the fighting in which women sometimes indulge.

415 Mesh baskets, as well as net or string bags of several types, each adapted to a particular purpose, are carried, and vary according to the chief food in season at the time. These 482 food baskets are slung across the shoulder and suspended

May, June and July, when the nights are cold, the natives sleep late and the camp is not active until well after daylight. As the people wake, they blow or fan the embers which have been smouldering through the night, and sit around the fire while they prepare for the day's hunting. No regular meal is eaten in the morning, but if any food remains over from the previous night they will warm this on the fire and eat it, before setting out.

About sunrise the camp is in full activity and the people now begin to move off. If each family is hunting as a separate unit the man picks up his spear-thrower and his bundle of spears—chiefly hunting weapons, with a fighting spear or two—and slings over his shoulder a small, closely-woven basket of the type called *büti mindir*. In this he carries a bundle of firesticks, and odds and ends of half-prepared string (*räkki*) in the form known as *duiyarrk* (bast fibre), together with pieces of beeswax and resin—material used for repairing spears—a knife, or scrapers of shell, a spear head or two, and generally his smoking pipe. If there is a young child, the burden of carrying it is shared by both parents. Very young babies are carried by mothers in elongated bark troughs of the same type as those used for carrying water. These are slung over the left shoulder and supported by the arm, leaving the right arm free to use the digging stick or yam stick. Frequently an older child is carried by the father astride his neck or shoulders, and from time to time the parents change over and relieve one another. Still older children follow behind, or run alongside, sharing the hunting activities of their parents and imitating them in the search for food, learning in this way the technique of hunting and gathering food which they will use throughout their lives.

9: Thomson E-5 (1935-1943) 1949
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4.

CRAFT SPECIALISATION

463 In most parts of Australia, the material culture is relatively simple, and each individual makes for himself most of the weapons and implements that he uses in his daily life. This is generally the case in Arnhem Land, and a man makes his own spears, spear-throwers, and most of the other equipment that he needs for hunting and fighting. But frequently he admires the handiwork of others who show special skill in technique. This is particularly the case with spears, in which it is of some importance to a man to believe that his weapons are superior or that they have some special
[431] quality. He often acquires spears from relatives in the particular quarter within the exchange cycle which may be renowned for such weapons, giving in exchange, spears which he himself has made and which may have special merit in the eyes of people in the territories through which they pass.[28]

411 [28] The distribution and the use of various types of spears is not as simple as might at first appear. Both in Arnhem Land and on Cape York Peninsula, North Queensland, the serrated spines of the stingray are used for the tipping of spears. On Cape York Peninsula these nails or spines are regarded merely as material for the tipping or barbing of fighting weapons and may be used by
411 anyone. But in Eastern Arnhem Land stingray spines are associated in
614 mythology with *Bulmändji* (Tiger Shark), a culture hero of
773 certain clans claiming *Bulmändji* as a clan ancestor, and the right

Not every man is skilled in weaving *bäti* (baskets), of which many types are recognised, each with its own name and each made for a specific purpose. A man with special skill in weaving becomes known, but he is called merely *koŋ mainmäk*, a "good hand". Such a man may acquire some local renown and receive substantial payments (*baka bäkmärämma*) in return for his work, but again, this is a tribute to, and an acknowledgement of, the *marr* of the master craftsman, the prestige he brings, rather than "payment" for his activities, his craftsmanship. But it shows the beginnings of the recognition of craft specialisation, the *virtu* of special skill in craftsmanship.

But in the case of the *lippa lippa*, the wooden dugout canoes, which may exceed 24 feet in length and may be capable of carrying upwards of six to eight men on sailing

to use these stingray spines is the prerogative of these clans only and is jealously guarded.

Again, the fine appearance and balance of a spear is not always a gauge of its worth. I once remarked to an informant, Raiwälla, of a spear shaft, that it was crooked and twisted, and the spear not of much value. But he corrected me quickly and pointed out that as the shaft was crooked the spear was not "flash" and was therefore more likely to fly straight to its mark. Such a remark is enlightening, because it stresses at once the great difference in the way in which the white man and the Arnhemlander look at even so simple an artefact as a spear. To the white man, a wooden shaft is of good or indifferent craftsmanship, but the native attributes personality to it. Its very appearance may be deceptive. It may possess *marr* from its background and association. For this reason a native may place great value upon spears received within the ceremonial exchange cycle, from areas renowned for weapons of a certain type, although to the eye of the white man they may appear to be inferior to those which he makes for himself. The native recognises the prestige (the *marr*) of the master craftsman. By their associations certain *geiri* possess *marr*, and they have therefore a vastly enhanced *psychological* value as fighting or hunting weapons.

9: Thomson E-5 (1935-1943)1949
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The man is the hunter and on him falls the responsiblity of providing the bulk of the animal food.

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Plate 7. An Arnhem Land hunter returns with a Red Kangaroo, known throughout most of this territory as *kārristjāmbāl*, earning for himself the coveted title of "*tjāmbait*".

Plate 8. A communal fishing drive with nets near the Liverpool River, North Central Arnhem Land. Communal enterprise is a feature of aboriginal hunting and fishing, the proceeds being shared among the participants as soon as the "drive" is finished.

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[p. 58(c)]

9: Thomson E-5 (1935-1943)1949
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conservative, and this fact leaves a strong local stamp on their material culture. Certain types of utensils may be found only in one local area, and even spears, of which about 30 different types occur in Arnhem Land, can often be distinguished by a local preference for such minor traits as the use of one particular bast fibre (*daiyärrk*) for lashing, or of one resin—whether *ŋotjamän*, (*Canarium australasicum*), *maipin bortj*[33] (*Erythrophloeum*), or the hard, brittle, black resin of *länna pu*, (*Callitris*), "Cyprus Pine", for each of which there may be a strong bias in a certain local area. The use of such materials is laid down by tradition, and the aboriginal craftsman is conservative, not much given to experiment. He follows the pattern which is traditional because he believes it was established by the *wäŋärr* (his totemic ancestors).

In contrast with this extreme conservatism in the use of raw materials and in the technique employed in material culture, it is sometimes surprising to find suddenly, in an area as remote from outside contacts as far Eastern and Central Arnhem Land were when I first went to live with these people in 1935, 36 and 37, such elements as boomerangs, (*källi-gälli*), which are not made in this territory, bearing all the marks of authenticity of specimens from Katherine or Daly Waters—some two or three hundred miles away to the south or south-west. And these are accompanied by such articles as the closely-woven forehead fillets called *källämba*, heavy and closely-woven "bibs" or aprons called *mätta mätta*, *märtät* or *tjänauwo*, worn around the neck, suspended on the chest during fights, and *bäkkürämma* or *bäkka* (spears, having heads of ironwood with very long

[33] *Bortj* is really liver and is apparently applied to this resin on account of the practice of moulding it into large lumps suggesting the lobes of a liver.

177 hooks, beautifully carved, and light bamboo shafts),
411 all of which are foreign to the culture of East Arnhem Land but are very characteristic of the regions to the west and south-west.

In answer to my questions as to the origin of these objects, I received at first only the laconic reply "*warnba*", or "*warnbaŋor*",[34] west or from the west, lit. west-from, and when I pressed the enquiry further, my informants added "*birr-barlai!*", far away from, a remote place. *Birr* is used to signify very great or very remote, in time or space, e.g. *pämmän birr*—a very long time ago, in the dim past.

The boomerang does not really belong to the Arnhem Land culture, although fine specimens are seen there not
[431] infrequently. These are not manufactured locally and almost always show the character of the territory far to the south and south-west, from which they came. Their
[534] value in this territory is no longer as weapons for fighting or hunting, but for ceremonial purposes—as "sing sticks" or clappers for beating time—in place of the short heavy ironwood sticks called *birlma* used to beat time for *männikai* ("sings" or chants) which are the accompani-
[425] ment of each ritual and ceremonial act. Such *gerri* which
177 bear the halo and glamour of the celebrated exchange cycle,
411 are imbued with *marr*, with *virtu* or "value" apart
431 from their practical uses, and accordingly, some of them are used as objects of material culture and become ceremonial objects and may acquire a symbolic significance.[35] At first my enquiries elicited only the fact that these items

[34] *-ŋor', -ŋoru*, suffix expressing "motion from".

415 [35] A recent example is seen in the case of the boomerang, to
435 which reference has been made above, but other examples are not
778 lacking. One of these is *butulo*, recognisable as the replica (*mälli* lit. "shade") of an old square faced bottle carved from a block of

"from *warnba*" (the people of the west) entered the area principally from the south-west, by way of the Raimbaräna tribe, members of which have long been in the habit of travelling down to outlying cattle stations and even to the overland stock route, and that this food then came east. 177 411 431

Again, the most characteristic type of spear in use throughout Arnhem Land, including the northern shoreline, is *ŋämbi*, a hunting and fighting spear with a detachable flint head, (see frontispiece), *ŋämbi lirra*, (*lirra*, lit. tooth), mounted with hard beeswax and not with resin. There are only two quarries from which flint spear heads are derived, but the best, the ones properly called *ŋämbi*, come from the quarry at *ŋillipidji*, in the hills near the Walker River in the hinterland of Blue Mud Bay. From this one quarry, of almost legendary renown, come most of the flint spear heads of Eastern Arnhem Land. These *ŋämbi lirra* are generally passed from hand to hand encased in a neat sheath of *Melaleuca* bark (*bärukälla*) called *djalk*—a name applied only to the sheath of this one type of spear and giving its name to *kumur djalk*, the quarter (*kumur*) from which these spear heads enter and of which they are the most characteristic feature. Great bundles of these fine spear heads pass from hand to hand throughout Eastern Arnhem Land, and even farther away to the south, beyond the Roper River, as well as to the west across the Liverpool. The second quarry, mentioned above, is located in the 411 431 [135] [316]

ironwood and which has now become elevated to the level of a clan totem. In bygone days glass bottles which were occasionally washed up on the beaches possessed special social value as material for scraps and cutting implements. Similarly the wooden Malay anchor, with a single fluke, which was used by early visitors who came to Arnhem Land from the Celebes, has acquired a symbolic significance which is quite distinct from its original material value as the anchor (*luku*, lit. the foot) of a prau. [778] 435 415

THE SECOND QUARRY, MENTIONED ABOVE, IS LOCATED IN THE
411 Liverpool area, but spear heads from this source are regarded
431 as much inferior to the *ŋämbi*, and are also known by a
[316]
[137] distinctive name.

166 This much even the newcomer, who has his eyes about
431 him, sees for himself. It is clear that *gerri* circulate freely in Arnhem Land and far beyond, that the movements of certain special elements of material culture are extensive, and that they are not dependent upon the entry of the white man or the breaking down of the culture. As we have seen, the movements of the people themselves are restricted generally to their own clan territories and to those of a few neighbouring groups with whom a special relationship has been established, except on certain ceremonial occasions, or on *miriŋo* (war-making or avenging) expeditions. At other times they do not move very far afield, or at least they did not do so in former times. And again, we have seen that the very nature of the social organisation, the division of the whole of the territory among totemic clans each with its own intense internal solidarity and its equally strong opposition to other clans, was calculated to hinder and restrict, rather than to encourage, free intercourse between clans whose territories lay any distance apart.

431 How then are the *gerri* which bear, unmistakably, the stamp of origin in far away territories, actually circulated? By what means are they passed from group to group, and what is the motive force which brings boomerangs as well as other elements foreign to this culture at least two or three hundred miles from their place of origin, into a territory where their very function is lost? What, again, causes parcels containing *ŋämbi* to be brought considerably more than a hundred miles from the quarry where they were made? How do pounding and grinding stones, which are

9: Thomson E-5 (1935-1943)1949
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kumur märndu exchange, gave me the following list of *gerri* which he received from each of the five quarters or *kumur*[28] which form the horizon of his exchange cycle. 431 439

(1) *Kumur miwait*, (east). *Kaiyit*[29] (iron headed spears) and the round black pounding stones used throughout Arnhem Land, especially for pulverising *ŋätu*, (*Cycas* fruit). This stone, which comes from the English Company's Islands, is called *poipuro* by groups as widely separated linguistically as Kopapoiŋo (and the allied Tjämbarpoiŋo) on the one hand, and Mildjiŋi on the other. Sometimes *ŋämbi lirra* (flint spear heads), which form the most characteristic of the *gerri* from *kumur djalk*, to which they give their name, may, as has been indicated above, reach a man in North Central Arnhem Land (e.g. a man of Mildjiŋi clan of the Lower Glyde River) by an easterly route via the roving Ritar'ŋo people, thence along the southern side of Buckingham Bay. [411 412]

[28] Mildjiŋi use the same name for these groups, but the actual word *kumur* (sternum) becomes *biri* in this language. [192]

[29] The natives of Caledon, Trial and Blue Mud Bays, on the Gulf of Carpentaria, have acquired much skill in the making of *kaiyit*, and the manufacture of fine spear heads has become almost an industry at Trial Bay. Even before I actually entered Arnhem Land I had been surprised to obtain on the Roper River, iron headed (so-called "shovel") spears from Woodah Island, Blue Mud Bay. I found it difficult to understand why iron spear heads should be passing down to the Roper from Blue Mud Bay, where there was no white settlement, where contacts even by sea were few, and iron relatively scarce and highly valued, into country where cattle stations had long been established and where iron was relatively easy to get. But the explanation of this was found later, in the discovery in Northern Arnhem Land of the existence of the ceremonial exchange cycle, which supplies the motive force for the great movements of *gerri* over distances of hundreds of miles, of which this is a part, and to which impetus was given by the coming [325] 182 177 431 439

15:Chaseling M-5 (ca. 1934-1936)1957
O117 Murngin O117

MEN OF THE STONE AGE

Of aboriginal feet the least said the better; for they definitely give the lie to the theory that protective footwear spoils natural shapeliness. Toes are broken, knobbed, and widely spaced: this is particularly true of the first and second toes, by which they easily grasp and lift spears and large sticks or grip the rigging in climbing to the masthead of a lugger. Hands, however, are beautifully shaped, with long tapering fingers, and compare more favourably with an average European hand.

Finally, aboriginal skin is not black, as is popularly supposed, but is in varying shades of velvety brown, for there are blondes and brunettes in the Arnhem Land bush.

Daily life has not changed in a thousand decades, and still involves hunting with stone and wooden spears and stone axes for everything the nomad eats. Their camp grounds are well known, and are usually found on sandy slopes or beaches, reasonably close to water but as far as possible from the swamps that usually swarm with mosquitoes and sand-flies. A typical instance is 'Damballia' or Breamer Island, favoured for turtle hunting and named after its totemic waterhole. Having heard a lot about it, I set out to see it with some boys in a canoe. I took provisions and water for myself and flour for the boys, but they declined my offer of a drum for water, remarking that the well on the island would supply their needs and mine too.

With a favourable wind and tide we landed on the island at sunrise, and whilst my billy boiled, the boys went off to the well for water. As I was finishing my breakfast I noticed an overpowering smell, and found that it came from the well-water they were using to mix their damper. Even then they steadfastly maintained that it was up to standard, and politely declined some of mine. I found the well to be an open waterhole, completely covered by pandanus palms in which thousands of small doves and other birds were roosting. Nearby were several broken-down huts, and dozens

15:Chaseling M-5 (ca. 1934-1936)1957
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honour; sickness overtakes the offender, or the father may spear him.

New spears, knives, axes, and canoes are sometimes pronounced sacred and thereby impregnated by tabu. Custom provides for the use of such articles in inter-tribal presentations, and any responsible man may prepare them and paint his horde's totem on them. Nanyan, a youth of the Gerrkee horde, spent most of his time at Yirrkala, and I watched him make a spear and 'declare' it sacred. But the tabu could not be completed till he had killed with it, and when he speared a kangaroo it automatically became tabu to all but the men of his horde. After the meat had been eaten the oldest man present completed the ceremony by painting totemic symbols on it for Nanyan. He prized his spear and used it for a time in hunting; and because it had been ceremonially 'painted', the tabu was under control, and women and children of his own horde were allowed to eat meat killed with it, though on no account could the kill be shared with females from other hordes.

Nanyan later presented his spear to a man of the Kumite horde who had no totemic or marriage link with the Gerrkee. This 'alien' appreciated the courtesy and used the spear freely in the hunt, but only the initiated men could eat the food, the women and children not being allowed to share in the kill, because their horde had no associations with the spear's totemic centre. Finally the spear was formally returned to Nanyan who put it to normal use in procuring food for himself and family.

On patrol I visited a horde camped among the casuarinas near Caledon Bay, and in the evening saw the men return with a canoe loaded with fish. During the unloading I noticed that the women and children deliberately kept away and ignored the splendid haul, and I was told that the canoe

15:Chaseling M-5 (ca. 1934-1936)1957
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224 I found their methods of kangaroo hunting to be the most interesting of all, and I know the men would agree with this estimate. Kangaroos are comparatively easy prey during the wet season, when long grass covers the hillsides. A hunter [302] often smears white clay over his head, for clay is an effective camouflage, and a man so daubed is scarcely distinguishable from burnt-off tree stumps with their occasional unburnt patches of white. The big hunt is carefully planned, and there are intricate methods for driving, ambushing, and trapping kangaroos when the rains are over and the herbage is dry. Wide valleys or plains are selected for the hunt, and [372] a patch is burnt out in the centre. Meanwhile, three or four men run a wide circle of fire around the burnt-out area, and hunters with spears and firesticks light many fires inside the outer wall of smoke and gradually close in toward the centre, leaving behind them a wall of roaring flames and blinding smoke which terrifies and drives all the small animals, reptiles, and kangaroos into the central death-trap where they are speared.

225 Most Arnhem Land Yulengor hunt for sea-food both on [179] shore and from canoes. Metal has been filtering into the country for two centuries, and this has made hunting easier. [411] Once they fished with pronged hardwood spears and made wooden harpoons for the soft-skinned green turtle, dugong, [325] and porpoise, but they now grind metal harpoons that are able to pierce even the hard carapace of the shell-back turtle. For turtle hunting, a harpoon is tied to bush rope and [411] fitted into the end of a long spear haft, and when a turtle is sighted on the surface the canoe is paddled quietly toward it with a man standing in the bow ready for the strike.

Dugong are hunted at night, and canoes skim around the sea-grass feeding-grounds till an animal is sighted and harpooned. The flesh resembles pork, and the animals sometimes measure up to twelve feet in length and weigh half a 136 ton. A dugong suckles her calf while clasping it to her with

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ingenuity to cut and pound them into spear-heads, knives, and digging-bars. The majority of spears in Arnhem Land are now made from some kind of metal. Galvanized water-piping, and copper and brass fittings from wrecks, are pounded into shape; discarded fuel drums are beaten into knives and spears; nails from floating boxes are sharpened and bent into fishing hooks and harpoons.

Spears are frequently broken, lost, or given away, and consequently nomads are always looking for new spear-hafts. At least twenty varieties are made from wood and stone; the horror in primitive warfare is a spearhead made from a bunch of stingray barbs. Old-time fighting and hunting spears are cut from twelve-foot strips of hardwood and are shaved and smoothed with shells and sharp stones. Spears are seldom naturally straight; the kinks are eliminated by passing them backwards and forwards through a fire. Later they are painted and stabbed upright in the sand beside a wind-break, where they are ready for instant use.

In emergencies spears are made very quickly from the simplest materials. I remember we had a rough trip in heavy seas and blinding rain, till we found shelter behind the Wessel Island, where the boys went ashore to hunt for food. Spears had been washed overboard, and I wondered how they intended to hunt. About dusk they returned with two stingrays and a small shark. I asked how they had caught them, and I was told simply: 'I dived and caught them in my hands.' When the fish were cooking on the coals, the young hunter turned his attention to a few rusty nails in a piece of driftwood; he removed them and straightened them in his teeth. He tied them to the end of a straight stick, and called it a spear. Next morning he caught four two-pound fish with his stick and nails.

Spears are thrown from a 'mangal' or spear-thrower, a

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411 flat strip of wood three feet long and two to three inches wide. It is held between the second and third fingers so that the end of the thrower rests in the palm. At the opposite end there is a short hook, or pointed stub of hardwood, bound firmly in place with string and gum. The end of a spear is slightly concave, so that it fits over the hook on the thrower, which is then extended above and behind the shoulder for the throw. A man's thrust is greatly increased by the spear-thrower, and heavy and light spears are thrown with dangerous accuracy for distances of from forty to eighty yards; I have seen them thrown fifty yards and penetrate six inches into a tough palm tree. A nomad and his mangal are inseparable, and if by chance he loses or breaks his spear, or even finds it inconvenient to carry one, he always carries his spear-thrower. If a spear is unexpectedly thrown at him he has a good chance of throwing it back at his enemy if he has his spear-thrower.

531 Men use infinite care in painting and decorating themselves, their weapons, and utensils, and in ceremonial life they will spend weeks in making, painting, and decorating totems. Decorative art is limited by an unchanging background of mythology and religion, and sacred designs are [978] [928] passed from father to son to be meticulously reproduced when preparing youths for initiation, or on corpses, skulls, and burial posts. There is little originality in ceremonial artistry, but nomads are not devoid of artistic tendencies and spend a lot of time in decorating weapons and utensils. A woman patiently weaves a dilly-bag and then sets about mixing coloured clays for its decoration; her aesthetic impulse is gratified, although the bag is not improved thereby. Youths decorate play-spears, and they cannot refrain from smearing designs on their bodies if they find moist clay or soft ochre. 532 Men paint pictures of animals, fish, and birds on sheets of bark for pleasure, and when we took horses and

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bodies. This glue is obtained by cutting a vein in the arm, painting the blood on the skin and adding feathers before it congeals. Paint brushes are made from human hair or from twigs.

I remember watching Wonggu mix his colours in shells, flatten his bark, and prepare his orchid gum. Only then did he realize that he needed a brush, so he leaned over and cut a tuft of hair from his son's head, bound it to a twig and commenced his mural.

A well-known anthropologist stayed with us at Yirrkala and obtained a big selection of aboriginal arts and crafts and bark paintings. He paid the Yulengor well, and they gave full play to their ingenuity, manufacturing such things as bows and arrows which, incidentally, are not used by aborigines. I saw several paintings in the collection in the usual red, yellow, white, and black, together with an additional vivid blue. Not having seen blue before, I could not account for it till later in the day my wife chanced to remark that several of her blue-bags had disappeared.

Body decorations are made by mutilating the skin, and one pleasing mutilation resembles a string of beads on a woman's breast, where each bead is a raised nodule of flesh about the size of a pea. Women and girls scar a pattern on the skin with firesticks, and rub pipeclay into the wound; a more common practice is to cut the marks into the flesh before filling them with clay. For reasons of vanity and custom, a woman has a few cicatrices across her hips, and possibly on her shoulders, and in the event of sorrow she adds some to her midriff. If a brother should die, a sister paints horizontal lines across the backs of her legs below the knees, and when his bones are being collected she substitutes gashes for her clay markings.

It was explained that a man gets a friend to cut the customary perpendicular lines from his shoulder and halfway to his elbow, but he himself makes the more important

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of the hordes sit apprehensively under shady trees whilst the men paint intricate totemic designs on the initiates. More often than not several hordes meet for the occasion, and all the boys between eight and ten years of age are prepared by relatives. Armlets, dilly-bags and trinkets are hung around their necks for decorative purposes, and sometimes they carry a knife or steel tomahawk. When their moment arrives, the boys are brought to the ceremonial ground, and the men dance and sing with increasing emotion, till at last they bunch together and with kindly reluctant movements force each boy into the arms of a crouching man who supports and holds him. Women relatives close in and dance around the tightly packed circle and wail in rising agitation, others gash their heads, and girl playmates of the initiates cry amongst the trees and cut their breasts with sharp shells. An invitation is often extended to a visiting Yulengor to perform the actual operation, which is frequently prolonged by the use of a stone knife or spearhead. The loud purposeful calls of the men seldom drown the cries of the victim. It is then that a wave of emotion sweeps over the entire camp.

When a nomad is sick the relatives will crouch tightly around him, and their excessively mournful sympathy is conducive to moans and vapours from the patient. Eye-rolling and groans will accompany even simple sprains and abdominal pains and inspire sympathetic cries and wails. At the approach of death, the next of kin draw near pathetically brushing flies from the patient, attempting to sustain warmth with sheets of paper-bark, but unwittingly stifling him in a turgid atmosphere. There are wails and shrieks if continuous movement is not seen from some part of the body. Commotion at death is indescribable; women deliberately hurl themselves on the ground with loud cries, and they wail loudly and tremulously as they stab their heads with sharp stones and shells.

Egyptians preserved mummified bodies in pyramids,

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412 GENERAL TOOLS--cutting tools (e.g., knife, ax, adze, chisel, wedge, plane, scissors, saw, sickle); boring tools (e.g., awl, needle, drill, augur, bit, reamer); abrading tools (e.g., scraper, file, grindstone); striking tools (e.g., maul, hammer, pestle); eating utensils (e.g., knife, fork, spoon); digging tools (e.g., digging stick, spade, pick, hoe, shovel); gripping tools (e.g., tongs, tweezers, pincers, vise, grapnel, wrench); miscellaneous tools of general utility (e.g., broom, brush, fan, comb, rake, fork); parts and their assembly (e.g., blades, handles); See also:

Lashings . . . . . 284 Hardware manufacture 391

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313 Wood is chosen for its degree of hardness and weight and also for its shape according to the purposes of the object to be made. The main forms used are (1) long, slender, light (or heavy) shafts; (2) hollow logs; (3) roots with a well-defined arc; (4) long, straight, slender trunks with thick roots running off at a right angle from the shaft; (5) forked sticks; (6) ends of branches with many twigs and leaves; (7) any variety of dry wood; and (8) very large light wood tree trunks.

314 Three types of bark are used: (1) a long, thick, wide type found on the trunk of the larger eucalyptus; (2) thin paper-like bark from the Melaleuca; and (3) long thin fibers of root bark easily macerated.

Many varieties of leaves are technological material. They are usually [252] gathered in bundles by breaking off branches, but one large-leafed species is used singly as a plate on which to put fresh meat for cooking.

The long reeds of the water-lily ponds, spear grass particularly, and many other varieties of reeds are utilized.

237 The few animal materials used are, from land animals: kangaroo fat, kangaroo gut, kangaroo leg bones, bird feathers, bird bones (particularly leg), opossum fur, opossum gut and human hair; from sea animals: sting-ray prongs, fish and shark vertebrae, bivalve shells, and the melon shell.

Deposits of red ocher and pipe clay are mined along certain portions 317 of the seacoast. Yellow ocher is found in outcroppings. Round river 316 stones about the size of goose eggs are gathered. Diorite stones are also used. Quartzite is quarried from outcroppings. Ordinary earth and sand are used in making houses and ceremonial objects on the ground. Rock 342 ledges forming caves are utilized as shelters during the rainy season. 312 Rock basins which catch rain water are used as types of primitive cisterns to supply water in the absence of wells and fresh-water courses.

3. *General Description of Technical Methods Used in Making Raw Materials into Cultural Artifacts*

000 Only the general methods by which raw material is formed into artifacts will be discussed here. Each specific technique will be described in the section dealing with the articles manufactured.

442 The chief tools used with food are the ground stone axe,[4] a knife (formerly made of bone, but, since the Malay contacts, of iron), and a variety of bivalve shell.

322 Cylindrical wooden articles are made by cutting down a tree or

[4] The iron tomahawk is now used in its place.

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been used only once, with no sense of real loss to the owner. It does not burden the native with "excess baggage." It is easier to make a new one than to keep an old one.

The use of the pandanus sail has become general in the north. It is easily constructed and only a few hours are needed for its manufacture. It is a labor-saving device, and any such invention is deeply appreciated by the leisure-loving blacks. It, too, fits into the general scheme; no new technique was needed for its manufacture. The simple twining method used in the construction of the native basket or mat, with only slight modification, made an excellent pandanus leaf sail, the only difference being in the size of the strands used.

The most difficult element in the learning process that would enable a man to sail a boat rather than paddle it was the actual sailing itself. As has been said, the manufacture of a mast and sail is simple; but to learn to sail a canoe with a large pandanus sail, to adjust it to the vagaries of winds and tides, and, in all, to learn the job of a sailor man, undoubtedly took a long time. From what the writer has seen of the native's lack of interest in any activity that was not pleasurable, it seems obvious to him that if the native had not had a keen interest in the sea and a strong wanderlust, both of which the dugout canoe and its mast and sail definitely satisfied, Murngin civilization would never have adopted this whole complex.

The Malay pipe is a small, straight stick with its center bored out; at about four inches from the distal end a hole is made in the side of the pipe which connects with the central chamber; this latter hole is lined with a small piece of tin and forms the bowl of the pipe. Bamboo or cane is generally used, or a small tree whose central core has been eaten out by termites. The Malays introduced both the use and the manufacture of the tobacco pipe during the period in which they traded with the aborigines. Although the aborigines know that they acquired the pipe from the Malays, they believe they practiced smoking before this time, and point to the fact that there are several native tobaccos.[11] Whether this is true or not it is impossible to say at the present time, but nearly all the evidence seems to point to the introduction of smoking into Australia from a Malay source. However, if the latter is true, the natives quickly learned how to use native substitutes after they could no longer obtain Malay tobacco.

The substitution of the iron tomahawk (brought in as an article of trade by the Malays) for the stone axe can be understood, since the iron implement is a far more capable instrument, and—a more important reason—the tomahawk was easily acquired and it was not necessary to learn

[11] The Murngin insist that they had a native tobacco before the Macassar introduced the variety they use at the present time. The leaves were macerated and wrapped in paper bark and smoked as a cigarette, or put in a cane which had a hole in one end much like the Queensland type of pipe.

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how to make it. There was no arduous labor attached to collecting turtle shell to trade for an axe, for the shell came as a by-product to the pursuit of harpooning turtles. The making of the stone axe took time and a considerable amount of hard labor; but to go turtle hunting was a pleasure, since turtle harpooning expeditions are not only for the anticipated enjoyment of the flesh and to supply the family larder, but also for the pure joy of stalking the turtle, spearing it, and bringing it home to an admiring audience which could appreciate one's abilities as a hunter and a man of importance. Undoubtedly pride of workmanship is felt by a native axe-maker. His fellow tribesmen always express their appreciation of a well-turned-out axe or spear head, but the social approbation given to the two occupations is completely disproportionate.

The turtle shell had never been used, and had been discarded until the Malay came; that it should become an article of high value to the trader was an item of some amusement and a fortuitous circumstance for the aborigines. Since the women gather oysters, the trading of pearls for the Malay objects of trade was looked upon by the black as an even greater bit of luck than the trading of shell.

The trepang (*beche-de-mer*) industry demanded more effort. In this activity the Malay showed himself a practical sociologist, for he again made no vain attempt to change Murngin civilization to his liking, but merely used the institutions he found among them to satisfy his wants.

Canoes were given to certain men who, with their clansmen, gathered the sea slugs from the low-lying sand banks at low tide. All this the native understood, since it was but one added particular to a general type of behavior; and although the blacks do not eat trepang, this animal belongs to a group of seashore fauna which are gathered and eaten, and could have been added to the diet without any change in the methods of acquiring food. But there is one element in the economic structure of Murngin civilization that must have made this adaptation somewhat difficult, since the sexual division of labor allots the task of gathering mollusk and other seashore foods to the women. Men only gather these articles of diet for their own use when they have no women with them and there is nothing else to eat. It is very likely that if the natives could not have speared fish or harpooned dugong or turtle while looking for trepang beds, the Malays would have found the industry unprofitable, if not impossible.

The Malay brought the tamarind fruit with him. The seeds that were thrown away sprouted, and now the lands where he voyaged are known by their growth of the tamarind tree. Many of these trees are very large. The circles of trees which surround the spot where once a huge tamarind tree had grown show that they are secondary growths and do not represent the earliest period of the Malay contact. No one knows how long the Malay has been making his voyages to Australia. The writer attempted to find

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ARCHAEOLOGY AND THE GROUND STONE AXE

412 174 The ground stone axe is normally considered to be comparatively recent in Australia because it is not distributed throughout the whole of the continent; it is not found in the southwestern part of Australia. Such evidence is not conclusive since the spear-thrower, which is looked upon as an old trait by many authorities, is not found in certain sections of southeastern Australia. It is largely because European stratification shows it to be more recent than the chipping or flaking techniques found in the Old Stone Age cultures in the sites of such countries as France and Spain that this assumption has been made for Australia. The stone axe is the only ground [324] stone implement found in Australia, for the knives, spear heads and similar tools and weapons are made by the chipping and flaking techniques. The Murngin possess this implement; the writer made a fairly large collection of them. The stone axe is little used by the people on the coast because they [177] have acquired Malay iron axes and more recently European ones, but nevertheless they are still in use in the interior and occasionally along the coast.

172 Because the axe is stone and durable it gives one a good opportunity to use archaeological methods to study its approximate age in Murngin culture and possibly Australian civilization, since there were a number of large shell mounds distributed generally along the Murngin coast and in particular in the island of Millingimbi in the Crocodile group where the present Christian mission is now located. Two of these Millingimbi mounds were excavated by the writer with the help of aboriginal labor and mission picks and shovels.

The largest mound was located about one hundred yards or so from the shore and was shaped like the crater of a volcano with a rock water hole in its depths. This crater-like appearance was so real that the missionaries had called it Meteor Well because an explorer a year or two before my arrival had pronounced it the result of a meteor's fall. Actually, it was the result of human habitation spread around a clan well and the dropping of oyster and other shells around this water hole. This mound was about 425 feet long. The crater was approximately eighty-five to ninety feet across. The mound itself was eight feet wide and eight and one-half feet deep from its highest part to the earth's surface. It tapered off gradually to each side. The Murngin women were still adding shells to the heap by bringing to the water hole for opening baskets full of bivalves dug out of the mud flats along the coast or pried from the rocks of the oyster beds. The seacoast had a bountiful supply of shell food on this side of the island. A trench was sunk in the mound running from the outside to the center of the crater. It measured five feet in width and was excavated through the shell into a foot or more of earth, which gave a fair sampling of the site.

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and with an inch-long hook at the end is used. Each small hair ball is rolled out with the fingers into loose strands a few inches in length. Two strands are attached to the spindle and are twisted together by rolling the spindle down the leg of the seated native. The opposite end of the string is twisted in the opposite direction by the operator's other hand. More material is added until the string is complete. Opossum fur string is made in the same manner.

Both men and women make the vegetable and animal fiber string, although there is a not entirely unconscious tendency for division of labor on the traditional basis of women working with vegetable material and men with animal. Since the ordinary vegetable fiber used is root bark, and the usual instrument for digging such material is the digging stick—a woman's implement—strong impetus to women's making vegetable fiber string and an indirect restraint to men's making it result. Occasionally men do make vegetable fiber string, but very rarely. Even when a man wishes to construct his totemic emblem for the great Narra ceremony he puts his wives to the task of making the string. They, of course, do not know for what purpose they are making it, although it is likely that the more astute women have something more than a vague suspicion. Both men and women manufacture human hair string, but men predominantly.

Vegetable fiber string is used in the manufacture of the following articles: (1) the trunk of totemic emblems; (2) tassels of fringe on totemic emblems (this latter string is usually feathered, and would always be if the native had the necessary birds' down or small feathers); (3) mesh of fishing nets; (4) women's carrying bags; (5) women's and children's "harness"; (6) men's and women's pubic covering; (7) the wrapping of the ends of hair belts; (8) the wrapping of one variety of armlet; (9) the decorative fringe for baskets or to outline the design on a man's basket; (10) ordinary tying purposes; (11) necklaces; (12) forehead bands; (13) spirit bags; and (14) hafting.

Human hair string is used in making the following things: (1) fringe on a totemic emblem, but not for wrapping one; (2) fringe on a man's basket or for forming a geometrical design upon it; (3) cord on a bull roarer; (4) hair string belts; (5) string to tie around the ailing member of the sick; and (6) the tassel on a cylindrical spear-thrower. It is not used for fishing nets, women's bags, in the manufacture of women's and children's "harness," for any decorative wrapping purposes; nor ever for wrapping a totemic emblem, since the Murngin are fond of paint for decoration and human hair string does not take paint as well as fiber string does.

Opossum fur string, much rarer than vegetable fiber or human hair string, is used for pendants of the totemic emblems and upon men's baskets. It is also the chief material in making both men's and women's pubic aprons, although sometimes pandanus fiber is used, and occasionally root bark fiber. Farther south and east of the Murngin, in the district that is

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Usually when the trap is to be used an old man goes out into the swamp and stirs the fish up by walking around in the morass of ferns and moss. While he does this he feels with his toes in the mud and water at the roots of the fern trees for small fresh-water turtles and prawns.

6. Other Implements

Digging Stick.—The digging stick is used only by women and carried by them. It is normally about four feet long, but varies from three to six feet. It is made of ironwood and is sharpened at both ends. It is used by the women to dig for yams, roots, small lizards and marsupials. They also use it as a weapon in a camp brawl.

Fire Drills and Fire.—The only means of making fire possessed by the Murngin is the fire drill. The drill is composed of two parts, a hearth and a drill stick. The latter is carved into a cylinder, and the former is a rod flattened on one side and convex on the other. The normal length of both drill and hearth is two feet, but sometimes reaches three feet. The hearth is about one-half to one inch wide.

A small hole is cut in the hearth and an incision made so that when a spark is formed by the friction of the whirling drill it may be tipped out quickly. The drill stick is frequently incised with parallel lines. Both pieces are covered with red ocher.

When fire is to be made, dry paper bark is crumbled and formed into a small ball which can be held in the palm of the hand. A tiny bit of charcoal is placed in the hole in the hearth. The fire-maker squats over the stick, holding it in place with his feet while he whirls the drill with his hands. The end of the drill in contact with the hearth is slightly rounded; intense friction is created by rubbing the charcoal against the dry wood of the hearth. When a spark appears it is dumped into the ball of paper bark and blown on by the native or swung back and forth in the wind until the paper bark has caught fire.

Fire sticks are the permanent equipment of both men and women and are nearly always found in the personal baskets of each. They are not used, however, every time a man wishes to make a new fire, for fire brands of the inner core of a pandanus which burns like punk are usually carried by the men when they go on journeys.

When fire is to be used for cooking larger game such as emu, kangaroo, dugong, and turtle, a slight hole is excavated in the ground. Round smooth river stones about the size of a man's two fists are gathered and placed in the fire in the shallow pit. Sticks are put on top of them so that the fire continues burning. Dampened paper bark or green leaves are then placed on the fire. Large chunks of meat are put on top of the green leaves, then an upper covering of leaves and paper bark is added to prevent the direct contact of the fire from burning the meat and also to help steam the food. The hole is covered with sand so that a kind of earth oven has been made.

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252 This type of earth oven is made only for cooking larger animals. Fish, except minnows, are cooked on the open fire; minnows are carefully wrapped in paper bark and placed in the ash of a camp fire for cooking. A camp fire ordinarily used for cooking purposes is always made on a layer of earth taken from the nest of an ant bed. This earth is a kind of clay and holds its warmth longer.

Sometimes ground-fires for cooking are made by heaping a pile of stones in a hollowed-out spot and building a fire on them. After the stones are hot, paper bark and leaves are placed on them, the chunks of meat put in with bark and leaves over them, and the whole covered with sand and allowed to steam.

373 Pandanus palms are lighted to make a beacon for parties of canoes travelling at night in friendly country. They are also fired for certain totemic ceremonies.

322 To straighten a spear shaft, it is heated until the outside is smoked, then the maker holds the part of the shaft that is to be straightened between his two hands, places it against his knee, foot, or in his mouth, and pulls upon it. This process is repeated until, sighting along the shaft, it is seen to be straight.

304 Scarifications are made by pressing burning brands against the skin until the inner skin is burned through and a large welt formed. Ash is put inside the burn.[4]

412 *Stone Axe.*—All axes are of the ground-stone variety in this district, as they are everywhere throughout Australia except in the southwest.

They are made usually from smooth river stones. They normally weigh two and a quarter to three pounds, and vary from three to five inches in length, from two and one-half to four and one-half inches in width, and about one-half to one and a half inches in thickness at the larger end. The [324] axes are convex on both sides. The hafted end is usually slightly flaked to make a rough surface.

The stone blade is hafted to a wooden handle in the following manner: a small pliable stick is flattened on one side and bent in the middle so that the two ends meet. The axe head at the hafting end has been covered with beeswax. The stick is bent over the head and wrapped tightly with fiber string near the stone blade to hold it in place. Sometimes a pandanus circlet is plaited about the hafting instead of cord being used.

[324] The stone is ground to a sharp edge. The surface sometimes is ground only along the edge, but usually grinding extends to the border of the portion covered by the beeswax.

The handle is from ten to sixteen inches in length, but the norm is thirteen inches.

177 The Malays brought the steel axe for trading purposes and the white man has continued this process, so that the stone axe is seldom made today.

[4] Scarification is also produced by cutting.

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The technique has not been lost, for several old men know how they are made. 177

Food Grinding Stone.—These small stones are used to grind up seeds or nuts gathered by the women and to break mussel shells. They are three or four inches in length, the same in width, and about two inches in thickness. A rock of the proper shape is used and no artificial shaping is done. However, there is a socializing agency at work, in the sense that a round rock flattened on the two opposite sides is preferred and, further, the grinding gradually works the center into a cavity; such a stone has now assumed value and is sought for by a woman in preference to a new stone. The depression is sometimes an inch and a half deep. The stone weighs about a pound and a half normally, but varies from one-half to two and a quarter pounds. [253] 412

A larger-sized grinding stone also used by the native women is five inches by three inches and weighs about four pounds. It is also flattened on two sides.

The upper grinding stone, or grinder, is usually egg-shaped and is nothing more than an untreated smooth water stone. It has a diameter of about one and one-half inches and weighs from one-eighth to a quarter of a pound.

Camp Wells.—Two types of wells are dug during the dry season. The first is made more or less unconsciously by each person's excavating a small amount of earth from the bottom of a shallow water hole and continuing this process as the water dries up in the latter part of the season. The second variety is purposefully dug where water is known to be. It may be one or two feet in diameter or large enough to allow a man to get down in it to fill his paper-bark basin. Wells of this type sometimes reach a depth of four or five feet. Associated with an artificially constructed well is usually found the long-handled paper-bark container, made by attaching a long stick to an ordinary container with fiber string. 312

Bridges.—The Murngin often construct rude bridges by placing one to three tree trunks over the smaller streams about the camp. 491

7. Articles Used in Ceremonies

Feather Headdresses.—The chief materials used in making feather headdresses are resin, beeswax, fiber string, feathers of various birds, leg bones of birds, and wooden or sting-ray prongs. The feathers are hafted to the wooden, bone, or sting-ray pins with ironwood resin. White and black cockatoo tail feathers, the crest of the sulphur-crested cockatoo, emu, jabiru, egret, heron, native companion, goose, and duck feathers are the chief ones used, but feathers of other birds are also utilized. 292 287

The pin of the Gunabibi type of headdress is four to six inches long, and usually incised and ruddled if of wood. Sometimes the pin is made from the leg bone of a bird. The resin or beeswax hafting is in the shape [537]

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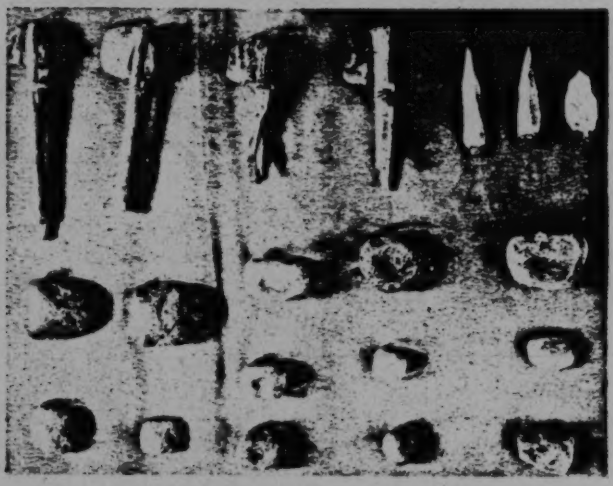

Ia. *Top left:* Hafted Stone Axes.
Top right: Stone Knives (or Spear Heads).
Middle and lower left: Unhafted Axes.
Middle and lower right: Grinding Basins and Mullers.

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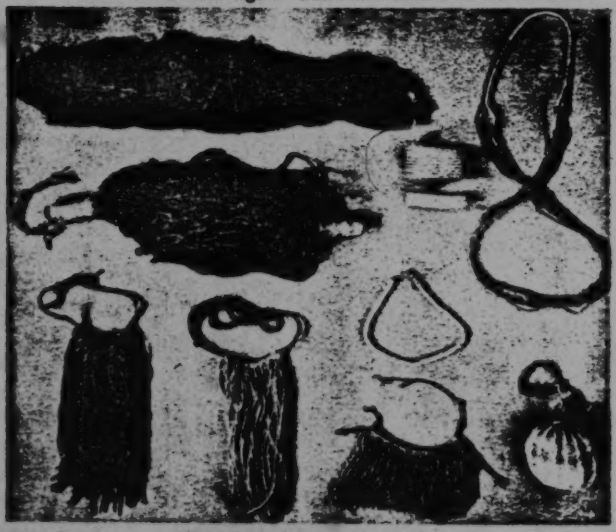

Ib. *Upper left:* Two Hair Belts.
Lower left: Two Men's Pubic Coverings.
Lower middle: One Woman's Pubic Covering.
Upper right: Armlets and Women's "Harness."
Extreme lower right: Spirit Bag.
Left center: Necklace of Fish Vertebrae.

[p. 558 A]

4: Berndt & Berndt E-5 (1946-1947) 1948
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and sacred songs, in trade, in fighting, and among material objects. And some alien strain is observable in their physical make-up. In spite of this, however, they retain the fundamental basis of the aboriginal culture.

Since wood-carving of the type to be described here is not normally found in other parts of Australia, it is probable that the design and manufacture were introduced at some early date from Indonesia. Native informants themselves state definitely that these are of indigenous inspiration; and since most of the human figures represented in Groups 1, 2 and 3 are so intimately connected with the mythology and song-life, and since even the most sacred Ancestral Beings are carved and used in ritual, their statement is difficult to refute. On the other hand, figures of Groups 4, 5 and 6 are more or less definitely associated with alien contact, as are their songs and ceremonies. It is therefore a matter of hypothesis whether the figures of sacred intent were sponsored by the Macassan and *'Baijini*-inspired *'wurɔmu* and dancing objects.

Their Manufacture.

All carvings, secular or sacred, are made by initiated men, working in a special camp. When the figures are required, at the advent of seasonal ceremonies, a craftsman employs at least two men to cut and trim the required posts. When these have been cut to size, and the bark removed, the artist begins to chip skilfully with a knife or "shovel-nosed" blade,[7] until it takes the shape he requires. He works on this for several days, carving in the details and scraping it smooth with a knife blade, rough stone or piece of shark's skin "sand" paper.[8] It is essential that the body should be smooth, since upon its surface the sacred totemic or clan designs are painted.

This done, he smears the whole figure with red ochre as groundwork for the design, and also to signify ritually that it represents a spirit being in human form. But at this stage, the actual figure has no distinct personality—it is simply a piece of wood shaped like a human being. It is after the painting of the pattern upon its body, face and legs that it becomes imbued with personality, and reaches the status of a sacred being: it is then a symbol of some particular Ancestral Being immortalized in song, mythology and ritual.

The totemic painting is the most important part of its whole manufacture, requiring hours of patient attention, the colours being mixed and ground on stones, and applied with a thin human-hair, bamboo-grass-root or pandanus-cone hair brush. When the figure is ready, it goes to a sacred storehouse to await the ritual showing.

[7] The iron bladed "shovel-nosed" spear is common to this region. Iron was introduced by Indonesian visitors, but never in any great quantity, so that stone axes, adzes and knives were freely used until recent years.

[8] This is mounted on a piece of wood, and used in much the same way as emery paper.

252 and pounding-stone with water during the process. The dried fruit may also be prepared by soaking in water or it may be mixed with the pulverised flesh and bones of the Red Kangaroo, *kärritjämbäl*, into a kind of paste, in which form it is greatly relished.

251 The only other instance, in my experience, of an attempt by Australian aborigines to store vegetable food, was on Western Cape York Peninsula, where the fruit of the Nonda Plum (*Parinarium Nonda*) was stored in deep holes sunk in dry sand, where it was kept for some time. The desiccated fruit was then prepared in the same way as *Buchanania* was treated in Arnhem Land, by pulverising the fruit, together with the hard stone or kernel, with a pounding-stone and soaking it in water. The two examples quoted above are of considerable interest and are important economically, for they appear to represent the beginnings of the practice among a nomadic hunting and food-gathering people of conserving and storing food.

412 The implements and domestic utensils used by the women are simple but well made, in each case by a technique which is perfectly fitted to the material available. The most important and characteristic implement used throughout most of the Continent is the yam stick. In Northern Australia, this is made from ironwood (*Erythrophloeum Laboucherii*), varying in length from about three feet to five, or a little more, sharpened at one or both ends, the digging points hardened by fire. This serves both as an implement for [411] digging and as a weapon for the fighting in which women sometimes indulge.

415 Mesh baskets, as well as net or string bags of several types, each adapted to a particular purpose, are carried, and vary according to the chief food in season at the time. These 482 food baskets are slung across the shoulder and suspended

[396] voyages in the open sea, the matter is different. These craft
501 are hollowed out of a single tree. They have no keels, but are quite smooth underneath, and today are built without outriggers (although these are said to have been used by the Macassars), and depend for their safety and stability as much on the skill employed in their manufacture as in
[435] the seamanship of their crews. These *lippa lippa* are unlike any other element of material culture and are valued greatly.
173 The natives say that in former times the Macassar voyagers
439 brought these craft to Arnhem Land each season in their
648 praus and that a prau carried as many as eight or ten *lippa*
501 *lippa*. When the time came for their departure, the Macassar men presented the canoes to the natives as part of their farewell payment, and this became a ceremonial occasion.

177 Before the coming of the Indonesian voyagers the natives
501 used only bark canoes,[20] called *bärwän*, and swimming logs,
[396] and it was only after the introduction by the Macassars of the *lippa lippa*, together with iron tools for cutting it, that the Arnhem Land people began making wooden canoes for themselves. Much labour is involved in the cutting of a big canoe, and none of the tools formerly used by the natives of Arnhem Land would have been fitted for
[412] this work. Although they possessed stone axes and shell scrapers, they lacked such tools as the fine, strong, relatively efficient adzes made from shell such as were used by the sea-faring peoples of Cape York Peninsula. This fact, and the way in which the wooden canoe was introduced, as well as its association with the Macassar voyagers, has given the *lippa lippa* a special place in Arnhem Land culture. But

[314] [20] The bark used is that of *Eucalyptus tetrodonta*, one of the "stringybarks", which is much used in technology. In addition to the manufacture of canoes, it serves for the roofing of houses and for the manufacture of certain vessels used for carrying water, as well as in the preparation of food.

9: Thomson E-5 (1935-1943) 1949
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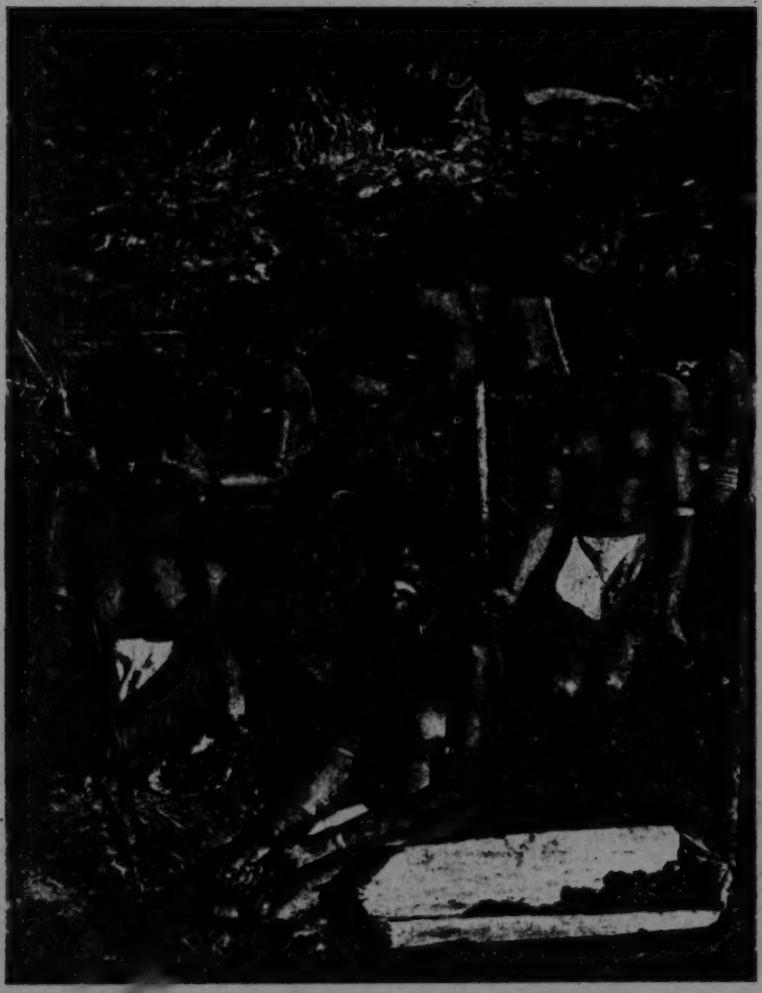

The woman is the provider of the vegetable food, which forms the chief food supply.

Plate 9. Women of Blue Mud Bay with their yam sticks, gathering corms of the Tall Spike Rush (*Heleocharis sphacelata*), which, for several months towards the end of the dry season, is one of the staple foods.

[p.58(D)]

F. Thomson E-5 (1935-1943) 1949
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kumur märnda exchange, gave me the following list of *gerri* which he received from each of the five quarters or *kumur*[28] which form the horizon of his exchange cycle. 431 439

(1) *Kumur miwait*, (east). *Kaiyit*[29] (iron headed spears) and the round black pounding stones used throughout Arnhem Land, especially for pulverising *ŋätu*, (*Cycas* fruit). This stone, which comes from the English Company's Islands, is called *poipuro* by groups as widely separated linguistically as Kopapoiŋo (and the allied Tjämbarpoiŋo) on the one hand, and Mildjiŋi on the other. Sometimes *ŋämbi lirra* (flint spear heads), which form the most characteristic of the *gerri* from *kumur djalk*, to which they give their name, may, as has been indicated above, reach a man in North Central Arnhem Land (e.g. a man of Mildjiŋi clan of the Lower Glyde River) by an easterly route via the roving Ritar'ŋo people, thence along the southern side of Buckingham Bay. [411 412]

[28] Mildjiŋi use the same name for these groups, but the actual word *kumur* (murnma) becomes *biri* in this language. [192]

[29] The natives of Caledon, Trial and Blue Mud Bays, on the Gulf of Carpentaria, have acquired much skill in the making of *kaiyit*, and the manufacture of fine spear heads has become almost an industry at Trial Bay. Even before I actually entered Arnhem Land I had been surprised to obtain on the Roper River, iron headed (so-called "shovel") spears from Woodah Island, Blue Mud Bay. I found it difficult to understand why iron spear heads should be passing down to the Roper from Blue Mud Bay, where there was no white settlement, where contacts even by sea were few, and iron relatively scarce and highly valued, into country where cattle stations had long been established and where iron was relatively easy to get. But the explanation of this was found later, in the discovery in Northern Arnhem Land of the existence of the ceremonial exchange cycle, which supplies the motive force for the great movements of *gerri* over distances of hundreds of miles, of which this is a part, and to which impetus was given by the coming [325] 182 177 431 439